

Aerospace Medicine and Aviation Safety

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ASO Office Schedule: **1500-1700** each class day or by prior arrangement

Exams 50% Aerospace Medicine questions will be included in the Psychology Exams. Sample practice questions are provided (page 4). ALL the answers are covered in class.

Preparation and Class Participation 50%: Read the assigned material and complete short projects to consider in class.

1. Aerospace Medicine: Billets, Organizations, and Mission

For the First Class! Complete all four items on this checklist.

- 1) Read this course outline and consider the objectives. (10 minutes)
- 2) Plan your time to invest 30 minutes of preparation before each class period. Refer to the ASO homework/quiz schedule. The actual time required for preparation will usually be shorter than this. If your time investment exceeds 30 minutes, come see me during the dedicated office hours (above) so we can avoid a time sink!
- 3) Read and consider the intent of CNO in OPNAVINST 6410.1: “UTILIZATION OF NAVAL FLIGHT SURGEONS “. It’s on page 3 of this outline. Consider how this guidance relates to Squadron Readiness, Aviation Safety, Operational Risk Management, and Mishap Investigations. Our task will be to understand how Aerospace Medicine people, organizations, and processes support these objectives! (10 minutes)
- 4) Take a look at the sample questions on page 4. (10 minutes)

Objectives Describe the Aerospace Medicine course **objectives & requirements**
for Class 1 Describe Aeromedical **Billets**, Support **Organizations**, and **Functions**
Describe how the ASO & flight surgeon can **cooperatively** promote safety
Describe the letter and spirit of the OPNAVINST **6410.1** guidelines
<http://neds.nebt.daps.mil/Directives/table31.html>

2. Perceptual Illusions, Survival and Aeromedical Lessons Learned

Prior to the Second Class!

- 1) Read Chapter 8, 3710.7R “Aeromedical and Survival”.
- 2) While reviewing the text, take some notes on interesting facts, things that surprised you, or places where you learned something new. Emphasize those, which particularly relate to your squadron’s mission or aircraft. If there is an acronym or text that doesn’t make sense, make a note of that also. (20 minutes)
- 3) From your notes, generate two short bullets (one or two lines) of interest to present in class. (10 minutes)

Objectives Describe common **illusions**, perceptual **errors**, and the “Airshow Threat”
for Class 2 Give examples: Video of F-18 airshow, photos of SH-60 Airshow
Describe the components of **3710** Chapter 8: Survival, Mission, Lessons learned

3. Prevention and Planning

Prior to the Third Class!

- 1) Read the selections in the table below, which includes all the aeromedical topics in the 3750.6. The note column indicates those portions which have been updated by the errata sheet at <http://web.nps.navy.mil/~avsafety/pub/errata.txt>. (15 minutes)
- 2) Generate two short bullets as accomplished in “Prior to Second Class” above. (10 minutes)

Aeromed 3 :		OPNAVINST 3750.6Q Aeromedical Reading		
page	paragraph	Subject	note	quantity
2-6to7	207 a	Premishap Planning		1p
2B-1	Appendix 2B	Premishap Plan Checklist		1.5p
3-11to13	318	Physiologic Episode Hazard Report		2p
4-5to8	407-411	Injury Classification		3p
4-8	413	Naval Aircraft Mishap Severity Classes		1/2p
6-12to 14	607c(2) (a)	Medical Evidence		2p
6-18to21	608	Tech and Medical Assistance to AMBs		
7-12to14	717d(3)	Aeromedical Analysis	49	2p

Objectives Describe Flight Surgeon **Premishap Planning**
for Class 3 Describe command duties on squadron **boards & councils**

4. After the Mishap

Prior to the Fourth Class

Review OPNAVINST 3750.6 Appendix N: Aeromedical Analysis Enclosures (20 min)

Aeromed 4:		OPNAVINST 3750.6Q Aeromedical Reading		
G-1	App G	Cognizant Field Activities for ALSS	59	1p
N1to N50	App N	MIR Enclosure Forms, Aeromedical Analysis		50p

Objectives Describe Flight Surgeon **Post-mishap Duties**: Immediate, Investigative, Follow-up
For class 4 Describe **Hazardous** Mishap Sites & Precautions, HIV/HEPB Video (12 min)

5. Victim Recovery

Prior to the Fifth Class Surf the web: SUSNFS <http://www.aerospacemed.org/>

Objectives Describe the range of **scenarios** and **risks** of **mishap victim recovery**
for class 5 Course Summary

From: Chief of Naval Operations

Subj: UTILIZATION OF NAVAL FLIGHT SURGEONS

Ref: (a) United States **Naval Flight Surgeons Manual**, 3rd Edition (1991)

(b) United States Naval Flight **Surgeon Aircraft Mishap Investigation Pocket Reference**, 3rd Edition (1990)

1. Purpose. To provide policy and criteria governing the utilization of Naval Flight Surgeons and to promote standardization of the Department of the Navy implementation of these policies and criteria in order to furnish the highest possible level of **military readiness, safety, and clinical care**.
2. General. The need for specialized medical support to endorse a viable aviation safety program has been acknowledged by both Naval Medicine and the aviation community. Recognizing this need for specialized medical support, the Flight Surgeon's role was established to ensure the highest possible level of health and safety for aviation squadrons. Flight Surgeons practice preventive medicine and apply aeromedical knowledge and practical aviation experience to mishap investigations, aviator evaluation boards, flight surgeon boards, and aeromedical teaching. Through optimum utilization of the Flight Surgeon, the highest level of success can be achieved in the aviation safety program.
3. Policy. Flight Surgeons can most effectively fulfill their responsibility of preventing accidents and improving military readiness through frequent, close personal observation of the unit personnel in the unit work environment. To this end, the Navy policies with respect to utilization of Naval Flight Surgeons are as follows:
 - a. Primary administrative control remains with the command to which the Flight Surgeon is assigned, with duties assigned by the commanding officer.
 - b. Flight Surgeons shall spend **50 percent** of their regular duty time directly engaged in aeromedical activities in the unit work area, i.e., squadron spaces. References (a) and (b) establish specific duties and responsibilities for Flight Surgeons.
 - c. Delineation of exact time allocation, duties, chain of command, etc., should be established by written memoranda (Memoranda of Understanding) between the officer in charge or commanding officer of the Medical Treatment Facility (MTF) and the commanding officer of the squadron to which the Flight Surgeon is assigned.
 - d. While employed in the MTF, the Flight Surgeon should be assigned to the Aviation Medicine Department and be **primarily** responsible for aviation sick call and aviation physicals. The Flight Surgeon should have the opportunity to treat personnel of the parent command whenever possible.
4. Action. Implementation of the requirements of this instruction demands discriminating judgment on the part of **all officers** of the Navy and Marine Corps associated with Naval Flight Surgeons. All Naval Aviation personnel and MTF shall familiarize themselves with this instruction. Full compliance with both the letter and spirit of the guidelines delineated herein is imperative.

DENNIS V. MCGINN
Director, Air Warfare

Aerospace Medicine Sample Questions

1. Name four Aeromedical Support Billets, their typical college degree, training, rank, and command when you last encountered them.

Billet	Degree	Training	Rank/Rate	Command
	MD or DO	NAMI		Squadron/Wing
	Masters: MS	NAMI		
	Ph.D.	NAMI		
	High School	NAMI		

2. What is the primary difference between the specialty of Aerospace Medicine and the “Classical” Medical Specialties.
3. How does this difference change the utilization of Naval Flight Surgeons when compared to the general medical officer in the sick bay or dispensary.
4. “Full compliance with both the letter and spirit of the guidelines delineated herein is imperative.” This is the concluding line of OPNAVINST 6410, utilization of naval flight surgeons. Briefly describe two of the core ideas the CNO is emphasizing in this document.
5. Fill in the following table with 4, 5, or 6 letter acronyms for aeromedical support organizations:

Organization	Primary support function it provides for ASO and/or Flight Surgeon
N _ _ _	Name varies (pick one)
N _ _ _ _	Science Lab next to N _ _ _ above
N _ _ _ _ _	Contracts and Money
A _ _ _	“Quincy”- Aviation Forensic Pathologists

6. A) Briefly describe (one sentence) the mishap event which precipitated congressional inquiry into Naval Aviation in 1996 and...
B) list the resulting changes initiated by naval leadership.
7. List the main differences between Human Factors Boards and Human Factors Councils in subject, participants, reporting requirements, scheduling, causes and possible results(recommendations).
8. List up to 4 MIR enclosure forms (3750 App. N) which would have been submitted as part of your team’s MIR investigation and how they added value to the report.
9. Who are the three physicians (ideally) present at autopsy in a class A mishap and what expertise does each bring to the process?